

Capacity building strategies and approaches for Africa RISING in the Ethiopian Highlands

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Through action research and development partnerships, Africa RISING will create opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The three regional projects are led by the International Institute of Tropical Agriculture (in West Africa and East and Southern Africa) and the International Livestock Research Institute (in the Ethiopian Highlands). The International Food Policy Research Institute leads the program's monitoring, evaluation and impact assessment. <http://africa-rising.net/>



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Introduction

Definitions of “capacity building” or “capacity development” vary with local contexts and development agendas. Some scholars define capacity building as “a locally driven process of transformational learning that leads to actions, which support changes in institutional capacity areas to advance development goals”.

Under this umbrella the Africa RISING project in the Ethiopian Highlands promotes capacity building for human resources development and strengthening local partner organizations in a range of ways, all of which are designed to respond to demand from all of our partners.

The project also focuses on knowledge sharing and cross learning through field days, workshops, experience sharing visits, regular meetings and training programs that include all project stakeholders. Institutional and organizational support has been achieved through individual needs assessments. Provision of critical and affordable facilities and equipment is a key gap-filling area for the project.

Capacity building approaches

Building and sharing knowledge

Short term

Surveys

The Africa RISING project in the Ethiopian Highlands has applied ten tools and approaches in order to understand its target farming systems more clearly and to identify appropriate R4D opportunities at its research sites. These include:

- Rapid telephone survey with key informants;
- Household livelihoods characterization and community stratification using the SLATE (Sustainable Livelihoods Asset Evaluation) tool;
- Participatory Community Analysis (PCA);
- Detailed quantitative household characterization using the IMPACTlite survey instrument;
- Elaboration and interpretation of indigenous agro-ecological knowledge using the AKT5 tool;
- Assessment of year-round livestock feed availability and options for strengthening feed supplies using the FEAST and TECHfit tools;
- Detailed market and value chain studies for six key value chains (wheat, potato, beans, dairy, cattle fattening and small ruminants);
- A study of farmers' perceptions of what constitutes sustainability and the implications of this for future evolution of their systems;
- Quantitative baseline data collections related to specific action-oriented interventions;
- A historical study of technology adoption by farmers at the Africa RISING research sites.

These studies required significant interaction and knowledge exchange amongst farmers and the experts conducting the surveys. These surveys have been useful to both experts in familiarizing themselves with local knowledge and experiences, and to the farmers who were able to recognize more explicitly the resources and knowledge available in their surroundings. The number of farmers and experts participating in these different activities was more than 2500 over the years 2012, 2013 and 2014. A breakdown of the farmers and other partners participating in surveys and other diagnostic activities during 2014 is given in Table 1.

Field days

The project had organized several field days for a range of participants at the Africa RISING sites and research kebeles. The project had organized mid-season, end season and larger field days to demonstrate its on-farm research interventions, get feedback from participating and non-participating farmers and other local and CG partners. The field days also served to identify technologies and management practices that suit farmers' needs under local environmental conditions. Field days have proved to be a strong mechanism for cross-project learning as they have engaged farmers, extension, NGOs, Universities, market dealers, industries and other value chain actors (Table 1 and 2) across the whole project stakeholder spectrum.

Experience sharing visits

Experience sharing visits have also been important knowledge sharing mechanisms exposing farmers, extension workers and researchers to success stories and challenges associated with technologies and local practices. Most farmers prefer to see first-hand the workability and applicability of technologies and practices that are new to their areas so that they can assess compatibility with their own farming systems. The Africa RISING project in the Ethiopian Highlands has been organizing various exchange visits for farmers, extension workers, researchers and other

local partners for cross learning and knowledge and information sharing. These visits have been organized both within and outside Africa RISING project sites on a range of priority issues (Table 1 and 2).

Training

Training is one of the important capacity building components in Africa RISING project. So far, the project has organized several trainings within and outside the research sites to familiarize project partners with the use of survey tools, research approaches, establishment and functioning of innovation platforms, familiarization with improved technologies and management practices and simulation modeling. These trainings have had both theoretical and practical aspects. Farmers, extension experts, researchers, NGOs and other partners associated with the project have had the opportunity to participate in most of these trainings (Table 1 and 2).

Workshops

Africa RISING has organized many workshops to review and plan its research plans, develop research ideas on some crosscutting and site specific research issues and to share project research results and information. These have been a key part of sustaining the collaborative spirit of the project but have also contributed to capacity development for many of our partners. A significant number (almost 2000) of participants from research organizations, higher learning and other institutions have attended and contributed in the workshops and meetings organized by Africa RISING project in the year 2014 alone (Table 1 and 2).

Project update meetings

The Africa RISING project coordinator for the Ethiopian highlands with his team members regularly (at least once every 3 months) travel to the Africa RISING sites and update the progress of the project to local partners. This approach has helped to increase the awareness and participation of our site level partners in Africa RISING research activities. In some cases it also helped to clarify misunderstandings.

A monthly meeting is held every month at the ILRI campus in Addis Ababa. Project partners, mainly CGIAR centres (ILRI, IWMI, CIAT, CIP, CIMMYT, ICRAF, ICARDA, ICRISAT and sometimes IFPRI), core team members and site coordinators virtually or physically conduct the meeting to a pre-structured agendas. Participants update on project activities, progress, challenges, upcoming events and other emerging issues. Brief PowerPoint presentations on the emerging findings of one to two of our research protocols are also included during these meetings. Reports on these meeting may be accessed at: http://africa-rising.wikispaces.com/ethiopia_highlands

Table 1. Training event, field day and workshop participants in 2014 in Ethiopia

Sites	Partners	Field days on different interventions	Training within and outside the site	Workshops/ meetings within and outside the site	Surveys
Basona Worena (Amhara)	Farmers	173	119	389	105
	Extension	24	11	22	2
	Research	18	5	15	11
	Higher learning institutions	11	1	7	2
	CGIAR centers	18	7	24	3
	Others including NGOs	6	2	27	1
Endamehoni (Tigray)	Farmers	398	121	228	175
	Extension	38	12	26	2
	Research	7	7	17	11
	Higher learning institutions	5	4	10	3
	CGIAR centers	14	10	23	11
	Others including NGOs	3	2	28	0
Lemo (SNNPR)	Farmers	372	115	593	241
	Extension	14	13	26	11
	Research	1	5	9	21
	Higher learning institutions	0	2	6	2
	CGIAR centers	0	3	24	5
	Others including NGOs	0	2	16	0
Sinana (Oromia)	Farmers	175	86	422	86
	Extension	16	20	35	2
	Research	9	6	11	4
	Higher learning institutions	8	7	12	3
	CGIAR centers	4	0	16	3
	Others including NGOs	1	2	12	0
Total		1315	562	1998	704

Table 2. Africa RISING capacity building activities undertaken in Ethiopia in 2014

Capacity development events	Basona Worena	Endamehoni	Lemo	Sinana
Field days				
Mid-season evaluation of PVS on faba bean, barley, potato, wheat and malt barley	X	X	X	X
End season evaluation of PVS on faba bean, barley, potato, wheat and malt barley	X	X	X	X
Field day on crop varieties, management practices and livestock feed interventions	X	X	X	X
Mechanized seeding of wheat	X	-	-	-
Semi-permanent raised bed	-	X	-	X
Irrigated fodder/sheep fattening	-	-	X	-
Evaluation of crop residue storage, choppers and feed troughs	X	X	X	X
Training (within and outside the site)				
Site level apple training	-	-	-	X
Site level tree Lucerne training	X	X	X	X
IP facilitation training in Nairobi	X	X	X	X
Integrating Gender In to Agriculture in Addis Ababa	X	X	X	X
IP coordination, facilitation and M&E training in Addis Ababa	X	X	X	X
CropSys Modeling training in Addis Ababa	X	X	X	X
Experience sharing visits				
Apple production and management visit to a private farm	X	X	-	X
Irrigation practices (vegetables and irrigated fodder production) in Angacha, Kembata	-	-	X	-
Avocado grafting and management at Butajira tripartite (USAID-MASHAV-MoARD) nursery site and adjacent fields	-	-	X	-
Official visit of woreda, zonal and regional officials to learn from AR on-farm research interventions	-	X	-	-
Workshops and meetings (within and outside the site)				
Woreda and kebele IP meetings/workshops	X	X	X	X
Site level community meetings on research interventions	X	X	X	X
Value chain study reports writing write-shop in Addis Ababa	X	X	X	X
Review and finalization of value chain assessment study	X	X	X	X
Africa RISING annual learning event in Arusha, Tanzania	X	X	X	X
Africa RISING project review and planning meeting	X	X	X	X
Surveys				
Value chain	X	X	X	X
Survey on fruit and vegetable crops	X	X	-	X
Crop residue survey	X	X	X	X
Six crop and livestock enterprises value chain survey	X	X	X	X
Survey on technology adoption	X	X	X	X
Survey on irrigation technologies	X	X	X	X
Baseline survey on tree Lucerne	X	X	X	X
Baseline survey on faba bean/forage intercropping	X	-	X	-
Survey on onset production systems	-	-	X	-
Feed assessment survey (FEAST)	X	X	X	X

Long term

Africa RISING in the Ethiopian Highlands has signed memoranda of understanding (MOUs) with more than 10 local partners. Capacity development, especially research attachments for postgraduate students, is one of the areas in which the project has agreed to provide explicit support. This commitment is outlined in the MOU. Students are expected to align their research topics with the project's thematic research areas and undertake their research at project sites. Details of the research topics addressed by current students and other related information are given in Table 3.

Table 3. Africa RISING supported PhD and MSc students and their research topics

Name	Research topic	Level	University	Host centre	Duration of attachment
Sultan Usman	Analysis of Wheat Value Chain: The Case of Sinana and Agarfa Districts, Bale Zone, Oromia Region, Ethiopia	MSc	Haramaya University	CIAT	6 months
Vine Mutyasira	Sustainable Intensification in Ethiopian Highlands	PhD	Colorado State University	ILRI	6 months
Fresenbet Zeleke Abshiro	Economic Impact of Small Ruminant Market Facilities in Central and Northern Highlands of Ethiopia	Ph.D.	Haramaya University	ICARDA	1 year
Zenaye Degefu Aghazi	Adoption and impact of improved food legumes in Bale highlands: Intra and Inter-household empirical analysis	M.Sc	Haramaya University	ICARDA	11 months
Fisahaye Abraha	Indigenous Livestock husbandry and Ethno-veterinary practices in different Agro-ecologies of Endamahoni Woreda, Southern Tigray, Ethiopia	MSc	Hawassa University	ILRI	6 months
Tamene Tadesse	Faba Bean Forage Inter-cropping: Benefits and Trade-offs to Improve Feed Resources in Lemo Woreda, Southern Ethiopia	MSc	Hawassa University	ILRI	6 months
Meron Mengesha	The effect of graded levels of tree Lucerne meal supplementation on the performance of fattening sheep	MSc	Hawassa University	ILRI	6 months
Feleke Tadesse	The biomass yield and nutritive quality of tree Lucerne fodder as affected by different management factors in Lemo Woreda, southern Ethiopia.	MSc	Hawassa University	ILRI	6 months
Zerihun Yemataw	Morpho-Agronomic and Molecular characterization of Enset for EBW resistance/tolerance	PhD	Addis Ababa University	ILRI	2 years
Ashraf Alkhtib	Enhancing the nutritive value of legume straws	PhD	Damascus	ICARDA	1 year
Anbessa Gebretsadik	Diversity, Distribution and Management of Indigenous Fruit Trees/shrubs in Tigray, Northern Ethiopia	MSc	Mekelle University	ICRAF	2015
Gebrehiwot Hailemichael	Role of indigenous wild fruit trees in ensuring food security and their comparative nutritional values in comparison with commercial fruit trees	MSc	Mekelle University	ICRAF	2015
Abayneh Melke	Apple tree morphology and physiology	PhD	Addis Ababa University	ICRAF	2014/2017
Anne Kuria	Local knowledge and land use history in Debre Birhan	PhD	Bangor University	ICRAF	2015/2016

Mirja Michalscheck	Farming Systems Analysis with an emphasis on nutrition and gender. Case study: Sinana Ethiopia and Northern Region, Ghana	PhD	Wageningen University	CIMMYT	1 year
James Ellison	Analyzing the impacts of SLM interventions on land and water productivity in Ethiopian highlands: participatory and scenario analysis	Msc	Kassel University / Goettingen University	CIAT	6 months
Tesfaye Tesfamichael	Land degradation assessment and eco-hydrological modelling under changing climate and management practices in the Blue Nile river basin, Ethiopia	PhD	Addis Ababa University	CIAT	2.5 years
Kiros Gebrecherkos	Assessing the impact of land use/cover change on soil erosion and sedimentation	MSc	Mekelle University	ICRAF-CIAT	1 year

Local partners need assessment and gap filling

The Africa RISING project is partnering and working with local partners from universities, research centers, government extension services, NGOs and other value chain actors. The project, with the support from its site coordinators, facilitates and brings local partners to work together. Local partners are engaging in various Africa RISING diagnostic, capacity building and on-farm research activities. The project has assessed institutional gaps experienced by local partners and allocated funds to purchase equipment and compensate staff time (Table 4).

Table 4. Need assessment and gap filling for Africa RISING project local partners

Partner institutions	Region	Resources provided			
		Laptop	Desktop computer	Multipurpose copy printer	LCD
Alamata Agricultural Research Centre	Tigray/TARI	3	2	1	0
Endamehoni Agricultural Research Centre	Tigray/EIAR	2	1	1	0
Maichew ATVET	Tigray	1	3	1	0
Endamehoni district Agriculture Office	Tigray/Extension	2	2	1	0
Debre Birhan Agricultural Research Centre	Amhara	Irrigation facility for dry season seed multiplication			
Debre Birhan University	Amhara	2	6	1	0
Basona Worena district Agriculture Office	Amhara/Extension	2	1	1	1
Areka Agricultural Research Centre	SNNPR/SARI	3	1	1	1
Worabe Agricultural Research Centre	SNNPR/SARI	3	1	1	1
Wachemo University	SNNPR	5	4	0	0
Lemo district Agriculture Office	SNNPR/Extension	2	2	1	0
Sinana Agricultural Research Centre	Oromia/OARI	2	2	1	1
Madawalabu University	Oromia	2	6	1	0
Sinana district Agriculture Office	Oromia/Extension	1	2	1	1
Sinana district Livestock Agency	Oromia/Extension	1	1	1	1
Total		31	34	14	6

Future plans

Africa RISING is planning to strengthen its capacity building activities through various short and long term trainings, visits, workshops and field days. In 2015, the project plans to have research attachments for 10 MSc and 5 PhD students from local partner institutions. In addition, the project will organize a training program on data management, data analysis and scientific paper writing for instructors and researchers from our local universities and regional and federal research institutions. Further field days and workshops will be organized at different levels within and outside Africa RISING sites to share information and enhance cross learning.